PRESSURE MAINTENANCE FACILITIES - INDUSTRIAL APPLICATIONS

Rules Affected: Title 30 Texas Administrative Code (30 TAC) §290.45(d)(2)(A)(ii), §290.45(d)(2)(B)(v), and §290.45(d)(3)(F)

Background

In applying for an exception to the minimum pressure maintenance capacity requirements for a public water system (PWS), the system must provide equal or greater protection of public health than meeting the minimum requirements as provided by 30 TAC §290.39(l). For the purpose of this document, "Industrial Applications" refers to those systems classified as nontransient, noncommunity systems as defined in 30 TAC §290.38(56). Per 30 TAC §290.45(d), all nontransient, noncommunity systems providing groundwater, surface water, or groundwater under the influence of surface water must have a minimum pressure tank capacity of 220 gallons. In the case of pressure maintenance capacity requirements, noncommunity systems are evaluated differently due to their unique characteristics and ability to discontinue service in the event of pressure maintenance problems. The purpose of this Staff Guidance Document is to provide assistance to TCEQ staff evaluating exception requests to these requirements.

Guidance

The supporting documentation for this type of exception will require pressure monitoring at various locations in the PWS's distribution system, computer analysis of the distribution network, or other equivalent methods of analysis (which are approved by the TCEQ on an individual basis). This document only addresses the minimum requirements for distribution system monitoring to support the exception request. The supporting documentation must be sufficient to ensure that minimum operating requirements in 30 TAC §290.46(r) are met during normal and emergency conditions. Appropriate distribution sites must be selected to ensure that critical locations representing the lowest possible distribution system pressures are selected for monitoring. Requests for this type of exception will consist of a two-step process:

1. Monitoring Protocol
2. Pressure Testing and Monitoring Report

The Monitoring Protocol is a written plan that defines the scope and duration of the pressure monitoring. Once the Monitoring Protocol is reviewed and approved by the Technical Review and Oversight Team (TROT), a letter is sent to the PWS approving the Protocol as submitted, approving the Protocol with revisions, or rejecting the Protocol (and possibly offering an alternative). The PWS uses the Protocol to install pressure recorders and monitor pressure levels in accordance with the approved Monitoring Protocol. Once the data is collected, the results of the pressure testing are submitted to the TCEQ in the Pressure Testing and Monitoring Report. The submittal of this Report completes the exception request process.

If a computer analysis of the distribution network is proposed by the system in lieu of in-situ pressure monitoring, the analysis must be submitted by a licensed professional engineer.

Monitoring Protocol

The Monitoring Protocol details the characteristics of the industrial facility, and the PWS's approach to selecting and monitoring pressure levels in critical areas of the distribution system. The following items must be addressed in the Protocol:

1. Description of the industrial facility (i.e., type of industrial application that the PWS does, types of processes involved in day-to-day operation, etc.)
2. Identification of locations of suspected low pressure (critical points) in the distribution system, with respect to the distance and elevation from the source of supply. A distribution system map with the locations of the critical points must be provided.
3. Inventory of facilities, such as ground storage tanks, pressure tanks, service tanks, etc. These facilities must be identified in the distribution system map.
4. Proposed duration of pressure monitoring at the critical points identified in Item 2. The PWS will be required to install a pressure recorder at each critical point, and monitor the pressure continuously. Typically, 90 days is acceptable to show changes in plant operation and water demand. The selected test duration should consider various scenarios that may result in pressure fluctuations, such as change over from one pump to another, addition of pumps, changeover to auxiliary power, or an additional power source, etc.
5. Documentation that the system has a proactive cross-connection control program with at least one person trained in a TCEQ-approved 10-hour customer service inspector course. This can be accomplished by providing the following:
    a. A copy of the policy or internal rules that require customer service inspections, backflow prevention, and testing of backflow prevention assemblies.
    b. A copy of the latest Customer Service Inspection Certificate filled out by the appropriately licensed individual documenting the presence or absence of cross-connections.
    c. If a backflow prevention assembly(s) is used, a copy of the Backflow Prevention Assembly Test and Maintenance Report showing that the assembly is functioning correctly.

    Information on Cross-Connection Control Programs is available at https://www.tceq.texas.gov/drinkingwater/cross-connection/cc_control.html or you may call (512) 239-4691 and ask to speak to a member of the TCEQ Cross-Connection Control Program.
6. If the pressure testing conducted shows a compromise in the integrity of the water distribution system, the PWS must have measures in place to address any adverse effects during the planning for the pressure test.
7. The system must have a licensed water operator for all activities related to the operation of a PWS. An approved Monitoring Protocol does not exempt the water system from maintaining minimum pressures and flows during the monitoring period. If it is found that minimum pressures are not maintained during the monitoring period,

an exception to minimum pressure maintenance requirements will not be considered by the TCEQ until appropriate corrective action(s) are implemented by the PWS.

The Monitoring Protocol must be submitted to the TROT for approval at the following address:

Technical Review and Oversight Team (MC 159)
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Pressure Testing and Monitoring Report

Once the Monitoring Protocol is approved by the TCEQ, the PWS must install pressure recorders at the approved critical points and continuously monitor and record the pressure levels for the duration specified in the approved Monitoring Protocol.

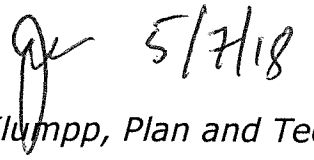
- Normal operating pressures must not be below 35 pounds per square inch (psi) at any time during the test. Operating pressures during a fire flow event must not be below 20 psi at any time during the test. All lag times during changeovers must be recorded and correlated with the pressure changes recorded in the distribution.

Once the pressure testing and monitoring is completed, the PWS must summarize the results in a Pressure Testing and Monitoring Report and submit an exception request to 30 TAC §290.45 (Minimum Water System Capacity Requirements) in writing to the TCEQ TROT. The submittal should include the Pressure Testing and Monitoring Report and a copy of the approved Monitoring Protocol. Staff will review the request and develop a written response.

If an exception is granted, the TROT staff member should include a condition in the exception letter to state the following:

"The system must maintain a minimum pressure of at least 35 psi throughout the distribution system during normal operations, and a minimum of 20 psi during emergencies, as specified in 30 TAC §290.46(r). In the event that the minimum pressure cannot be maintained, the water system must cease operations or must provide another source of potable water (i.e. bottled water) for industrial employees until sufficient pressure can be restored and maintained."

Finalized and Approved by:



Joel Klumpp, Plan and Technical Review Section Manager, 05/07/2018

If no formal expiration date has been established for this staff guidance, it will remain in effect until superseded or canceled.

Revision History:

Date	Action	Action by
4/1/2004	Approved	Buck Henderson
6/12/2013	Approved	Ada Lichaa
06/29/2016	Approved	Joel Klumpp
01/09/2018	Revised	Alvie Nichols/Bill Melville
05/07/2018	Approved	Joel Klumpp